



INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PC25353A	FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/IB2004/003806	International filing date (day/month/year) 22.11.2004	Priority date (day/month/year) 03.12.2003	
International Patent Classification (IPC) or national classification and IPC A61K39/106, A61P31/04			
Applicant PFIZER PRODUCTS INC. et al.			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 17.02.2005		Date of completion of this report 07.02.2006	
Name and mailing address of the International preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer Rankin, R Telephone No. +31 70 340- 	

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/IB2004/003806

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-8 as originally filed

Claims, Numbers

1-18 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing *(specify)*:
 - ☐ any table(s) related to sequence listing *(specify)*:
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing *(specify)*:
 - ☐ any table(s) related to sequence listing *(specify)*:

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 1-18 (Partially)

because:

☒ the said international application, or the said claims Nos. 1-18 (for reason of industrial applicability) relate to the following subject matter which does not require an international preliminary examination (specify):

see separate sheet

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos.

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form

☐ has not been furnished

☐ does not comply with the standard

the computer readable form

☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See separate sheet for further details

**INTERNATIONAL PRELIMINARY REPORT
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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-18
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-18
Industrial applicability (IA)	Yes: Claims	
	No: Claims	1-18

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

3 Claims 1-18 relate to subject matter considered by this Authority to be covered by the provisions of Rule 67.1(iv) PCT. Consequently, no opinion will be formulated with respect to the industrial applicability of the subject matter of these claims (Article 34(4)(a)(i) PCT)

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

5.1 For the assessment of the present claims 1-18 on the question whether they are industrially applicable, no unified criteria exist within the PCT Contracting States. The patentability can also be dependent upon the formulation of the claims. The EPO, for example, does not recognise as industrially applicable the subject matter of claims to the use of a compound in medical treatment, but may allow, however, the use of such a compound for the manufacture of a medicament for a new medical treatment.

5.2 Cited Documents

Reference is made to the following documents:

- D1: NOOR S M ET AL: "In ovo oral vaccination with *Campylobacter jejuni* establishes early development of intestinal immunity in chickens" BRITISH POULTRY SCIENCE, vol. 36, no. 4, 1995, pages 563-573, XP008042792 ISSN: 0007-1668
- D2: ZIPRIN R L ET AL: "Effect of mutations in *Campylobacter jejuni* genes on cecal colonization, and liver invasion, when given in ovo or on day-of-hatch" POULTRY SCIENCE, vol. 78, no. SUPPL. 1, 1999, page 39, XP008042793 & EIGHTY-EIGHTH ANNUAL MEETING OF THE POULTRY SCIENCE ASSOCIATION, INC.; SPRINGDALE, ARKANSAS, USA; AUGUST 8-11, 1999 ISSN: 0032-5791

5.3 Novelty

The subject matter of claims 1-18 is novel with regard to the prior art (Article 33(2) PCT) for the following reasons:

5.4 D1 discloses in ovo oral vaccination of chicken eggs with *Campylobacter jejuni*

vaccine which is heat inactivated.

5.6 D2 discloses the in ovo administration of various live strains of *Campylobacter jejuni* and assesses their ability to colonise the cecae and livers of the recipient chicks.

5.7 Inventive Step

Claims 1-18 are not inventive (Article 33(3) PCT).

5.8 D1 is the closest prior art and discloses in ovo oral vaccination of chicken eggs with *Campylobacter jejuni* vaccine which is heat inactivated (cf the entire document).

5.9 The difference between claim 1 and D1 is that the vaccine of claim 1 contains a live strain of *Campylobacter*.

5.10 The problem to be solved may therefore be considered as being to provide an alternate in ovo *campylobacter* vaccine.

5.11 The solution provided by claim 1 is to vaccinate poultry in ovo using live *campylobacter* cells. This solution, however, cannot be considered inventive. In ovo vaccination against *campylobacter* is known from D1 and since D2 discloses the delivery of attenuated *campylobacter* strains in ovo, the skilled person would therefore have considered it obvious in light of the prior art to attempt to use the *campylobacter* strains of D2 in the production of a *campylobacter* vaccine for in ovo use. Claim 1 is therefore not considered inventive (Article 33(3) PCT).

5.12 Dependent claims 2-18 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step as the subject matter of these claims represent obvious choices to the skilled person (Article 33(3) PCT).